

Media Release

Geneva
August 2017

GF Machining Solutions' AgieCharmilles LASER P 400: The perfect solution for aesthetic and functional texturing of precision parts and micromachined workpieces

As the only solution on the market specifically designed for the aesthetic and functional Laser texturing of precision parts, GF Machining Solutions' AgieCharmilles LASER P 400 represents the future of texturing. The compact machine concentrates highly accurate performance and repeatable results in a single solution for texturing parts for watches, jewelry, small inserts, cutting tools, and micromachined workpieces.

Infinitely repeatable high performance and quality are key attributes of the AgieCharmilles LASER P 400, which is available in three- and five-axis versions. It is a solution specifically designed for the production of small parts and mold inserts. It is supported by a fully digitalized process for complex parts as well dies and molds in small series and makes light work of texturing and engraving parts for watches, jewelry, mold inserts, cutting tools and micro-machined workpieces from the design stage to the perfect finished product. The digital process takes the guesswork out of texturing, engraving and marking complex 3D parts and helps to shorten delivery times and raise profitability.

No post-treatment necessary

The AgieCharmilles LASER P 400 can combine the use of a femtosecond Laser with five-axis texturing and is the first Laser texturing machine offering this exceptional combination in production. Moreover, use of the femtosecond Laser means the textured materials do not go through a fusion stage, so the texturing operation is completely burr free and post-treatment steps are eliminated. Consequently, the user experiences high performance, exceptional quality, and saves both time and money.

With or without a femtosecond Laser source, the AgieCharmilles LASER P 400 effortlessly textures and engraves a wide variety of materials: steel, aluminum, graphite, copper and ceramic; adding the femtosecond laser source enables texturing and engraving of glass, sapphire and polymers. What the machine operator sees in the texturing source file is exactly what is reproduced on the final part—over countless iterations.

Boost your performance on reflective materials

Shown as “avant premiere,” the capabilities of the green femto Laser has all the advantages of the green wavelength. It has reduced spot size and is ideal for reflective materials such as copper, gold and nickel, compared to femto infrared. This performance makes it possible to machine three and five-axis parts at the highest quality and with the best efficiency. Unique on the market, green femto Laser technology, combined with five-axis capabilities, adds value to

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customers' production.

Intelligent tool path generation to boost productivity and quality

The latest version of GF Machining Solutions' GF Laser Workstation Software brings additional intelligence and efficiency to the Laser texturing process, thanks to the new Smartpatch module included in the package. With advanced patching generation, the software adapts the Laser patching strategy to the texture to be reproduced on an AgieCharmilles Laser texturing machine. The quality of texturing jobs is improved by the integration of intelligence and efficiency into the process: Smartpatch analyzes the job and generates the optimal patching strategy without affecting the texture's quality. With Smartpatch, both quality and productivity are improved.

3D Map software

GF Machining Solutions' 3D Map software makes it easy to integrate Laser technology into the manufacturing process and opens new application possibilities. A new option available for all GF Machining Solutions AgieCharmilles Laser texturing products, the one-of-a-kind 3D Map software makes it easy to import any 3D computer-aided design (CAD) file into an AgieCharmilles Laser texturing machine and accurately reproduce textures, forms and shapes.

The software automatically generates the right texture at the right position, eliminating the tedious task of mapping the right position on the 3D shape in order to easily achieve accurate geometric shapes.

Modular machine concept

The modular concept of the AgieCharmilles LASER P 400 includes a patented, all-in-one Laser head that can combine two Laser sources for texturing and engraving the same surface with just one setup. That unique Laser head design delivers additional flexibility by making it possible to automatically switch within a second between two laser sources installed in the same Laser head. That means users can reduce their running time by combining two texturing operations in the same machine.

A footprint of two square meters

Thanks to its compactness, the AgieCharmilles LASER P 400 can easily be transported in an elevator and integrated into an existing production line. Texturing efficiency and flexibility are boosted by the machine's small footprint, ensuring more productivity per square meter. Despite its compact design, the machine has a generous 600 x 400 x 250 mm working area with easy access and process monitoring via two large sliding doors.

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Picture caption:

GF Machining Solutions' AgieCharmilles LASER P 400, available in three- and five-axis versions, ensures infinitely repeatable high performance and quality, and was designed especially for the production of small parts and mold inserts.



Profile of GF Machining Solutions

GF Machining Solutions is the world's leading provider of machines, diverse technical solutions and services not only to the tool and mold making industry but also to manufacturers of precision components. The products range from electrical discharge machines, high-speed and high-performance Milling machines—including clamping and palletization systems, 3D Laser surface texturing machines and Spindles—to solutions for Tooling and Automation, services, spare parts, expendable parts and consumables. GF Machining Solutions is a globally acting Division of the Georg Fischer Group (Switzerland) and maintains a presence on 50 sites worldwide within its own organization. Its 3'102 employees generated sales of CHF 916 million in 2016. More information can be found at www.gfms.com.

